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(54) BOTTLE TOP

(71) We, GEORG MENSHEN & Co, KG, a German Company of, 5950 Finnentrop, Germany, and HENKEL & CIE G.m.b.H. a German Company, of, Henkelstrasse 67, 4000 Düsseldorf-Holthausen, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to a bottle top for closing a bottle or container comprising a base member for sealing contact with the rim of a neck of the bottle, and a through bore disposed in the base member.

A bottle top of this kind is known for example from German Patent Specification 1,204,959 and is used to dispense limited quantities of the bottle contents in spray or drop form without unscrewing the top from the bottle. For this purpose a cylindrical body containing the outlet bore is rotatably positioned in a correspondingly shaped recess on the base wall of the closure and is clamped therein. A tubular projection is disposed coaxially with the outlet bore for rotation of the cylindrical member. The contents of the container are thus dispensed in the direction of the centre longitudinal axis of the closure and thus of the bottle. This known top has proved very efficient in use but due to its complicated construction is expensive to manufacture.

It is therefore an object of the invention to provide an improved bottle top which is easier and cheaper to manufacture, has a more pleasing design and at the same time can be operated using only one hand.

According to the invention there is provided a bottle top for closing a bottle or container comprising a base member for sealing contact with the rim of a neck of the bottle, a through bore disposed in the base member and a slidable member extending substantially at right angles to the central axis of the top and mounted on the base member for slidable movement with respect thereto between first and second operative positions, the slidable member having a longitudinally extending emptying bore provided with an angled end portion for registration with the through bore in the first operative position of the slidable member and a spherical projection for sealing engagement with the through bore in the second operative position of the slidable member.

The base member may be provided with a depending sealing flange for engaging a mouth of the bottle, and the through bore is preferably disposed in a portion of the base member enclosed by the sealing flange.

The first and second operative positions of the slidable member may be determined by stops provided thereon which interact with corresponding members on the base member and at the same time hold the slidable member so that it can slide on the bottle top.

The bottle top may also be provided with a casing surrounding the base member and consisting of a cover base wall located at a distance parallel to the base wall and fastened thereto and a cover edge which surrounds in a substantially parallel manner the bottle neck when the bottle top is in use. The slidable member may be positioned to slide enclosed within the space between the cover base wall and the base member and to extend diametrically through the cover edge. An opening of arrow-shaped configuration extending in the longitudinal direction of the slidable member may be provided in the cover base wall so as to mark the direction of movement to the first operative position of the slidable member. The latter can be actuated either by means of its ends projecting from the cover edge or by means of a knob or button moulded thereto and extending through the opening in the cover base wall.

The arrangement of the slidable member for closing and opening of the through bore provides a simple but effective means for dispensing the bottle contents with one hand. Since, in contrast to known systems, the slidable member takes up very little space, the bottle top is of compact construction and and is aesthetically acceptable. This is of particular importance in bottle tops which are used mainly for closing cosmetic containers such as hair spray, shampoo, and cosmetic oils. In addition to the possibility of

single-handed operation of the slidable member the container contents can be dispensed or discharged transversely to the central longitudinal axis of the bottle top and thus the use of the container is much easier than before. A further important advantage of the bottle top is its economical manufacture.

The invention will now be described by way of example with reference to the drawings in which:

Figure 1 is a central longitudinal section through a bottle top with a cover and the slide member mounted thereon.

Figure 2 is a plan view of the bottle top according to Figure 1.

The bottle top illustrated in the drawings is a covered type of construction for pressing onto the neck of a bottle.

The bottle top is provided with a closure portion 1. The closure portion 1 comprises a base wall 2 with flat surfaces 5, 3 and having an annular skirt 6. A sealing flange 4 for sealingly engaging the mouth of a bottle (not shown) is moulded onto the surface 5 of the base wall 2 within the skirt 6 and coaxial therewith and with the centre longitudinal axis 9 of the closure portion 1. The annular surface area 7 defined between the sealing flange 4 and the skirt 6 rests sealingly on the rim of the bottle when the bottle top is in use. Dogs 8 are provided along the inner periphery of the skirt 6 so as to securely engage a corresponding flange on the bottle neck. An internal thread may be provided instead of dogs 8 if the bottle top is to be screwed onto the bottle neck

An elongate bore 10 is provided in an area of the base wall 2 of the closure 1 delimited by the sealing flange 4. The central axis of the bore 10 extends parallel to the central longitudinal axis 9 of the closure 1 and runs coaxially therewith or as illustrated, at a distance therefrom. One end of the bore 10 15 flush with the surface 5 of the base wall 2, the other end of the bore 10 being proud of the surface 3 of the base wall 2 and defining an annular flange 12 coaxial therewith.

A member 14 extends substantially at right angles to the centred axis 9 and rests in a sliding manner on the surface 3 of the base wall 2. The surface of the slidable member 14 remote from the base wall 2 is continuous along its entire length, while the surface facing the base wall 2 is recessed from the centre of the slidable member to the outlet end 24 by an amount corresponding to the height of the annular flange 12. An outlet 16 with an inner end 18 angled downwardly in the direction of the bore 10 extends through the slidable member 14 substantially along the region of reduced crosss-section. In this way in conjunction with the opening 21 at the inner end 18 of the outlet bore 16 a first stop is formed for determining the open position of the slidable member when it abuts the annular flange 12. The closed position of the slidable member 14 is determined by a notch 19 of saw-tooth configuration which is provided on the recessed surface of the member 14 and abuts the annular flange 12 with its substantially vertical stop surface in the closed position. In the closed position a spherical projection 17 on the recessed surface of the slidable member 14 sealingly engages the bore 10. The notch 19 has an inclined abutting surface which permits the slidable member to slide over the annular flange 12 when first incorporated in the closure arrangement.

The outer ends 24, 22 of the slidable member 14 are placed in correspondingly shaped openings on the edge 28 and an indention 30 respectively of a cover enclosing the closure 1. Furthermore the member 14 is concealed in a space between the base wall 2 of the closure 1 and the wall 26 of the cover extending parallel thereto. The closure 1 is moulded onto the cover in a conventional way which is not illustrated. The cover, which in the present case is oval, tapers outwardly from the base wall 26, the member 14 when in position is substantially as long as the largest diameter of the cover edge. The indentation 30 is provided at a point diametrically opposite the outlet end 24 so that the end 22 of the member 14 opposite the outlet edge 24 projects outwardly to the extent corresponding to the length of the displacement path between the open and closed position of the slidable member. The slidable member 14 can then be displaced merely by pressure on the end 22 or outlet end 24. As an alternative, the upper surface of the slide member may also be provided with a knob which extends through an elongate opening 32 in the base wall 26 of the cover and thus be actuated from the outside. The opening 32 in the base wall 26 is preferably arrow-shaped, the arrow head pointing in the opening direction of the slidable member 14. In this way a user can easily see the direction in which the member 14 has to be moved.

It is clear that the described embodiment of the invention as illustrated can be modified in numerous ways without departing from the scope of the following claims. Thus for example the slidable member 14 may have any other suitable cross-sectional area, which may be round or oval whereby it is only necessary to shape the members 3, 12 coming into contact therewith accordingly. The member 14 can also be used in a bottle top without the cover 26, 28, 30 as illustrated, in that for example to house the member 14 the edge 6 of the closure 1 may be extended beyond the base wall 2, and the closure may be provided with a double base similar to the embodiment illustrated.

Furthermore the entire top can be made

from any suitable material, but preferably of plastics.

WHAT WE CLAIM IS:—

1. A bottle top for closing a bottle or container comprising a base member for sealing contact with the rim of a neck of the bottle, a through bore disposed in the base member and a slidable member extending substantially at right angles to the central axis of the top and mounted on the base member for slidable movement with respect thereto between first and second operative positions, the slidable member having a longitudinally extending emptying bore provided with an angled end portion for registration with the through bore in the first operative position of the slidable member and a spherical projection for sealing engagement with the through bore in the second operative position of the slidable member.

2. A bottle top according to claim 1 wherein the base member is provided with a depending sealing flange for engaging a mouth of the bottle said through bore being disposed in a portion of the base member enclosed by the sealing flange.

3. A bottle top according to claim 1 or 2, wherein an annular flange coaxial with the through bore is provided on a face of the base member for cooperating with a stepped portion provided on an opposing face of the slidable member, the stepped portion having a depth corresponding to the projection of the annular flange and being directed substantially along the emptying bore in the slidable member.

4. A bottle top according to claim 3, wherein a substantially vertically extending face defined by the stepped portion forms in conjunction with said annular flange first stop means for determining the first operative position of the slidable member, and second stop means provided at a predetermined distance from the vertical extending face on the base surface of the stepped portion determining in conjunction with said annular flange, the second operative position of the slidable member.

5. A bottle top according to claim 5, wherein the second stop means is of an engaging saw tooth construction.

6. A bottle top according to any of the preceding claims 1 to 4, including a casing surrounding the slidably mounted member and consisting of a cover base wall located at a distance parallel to the base member and connected thereto and a depending cover edge the slidable member being mounted in the space between the cover base wall and the base member and extending substantially diametrically through apertures disposed in the cover edge.

7. A bottle top according to claim 6, wherein the length of the slidable member is such that in the first or second operative positions one end thereof protrudes from the cover edge of the casing by an amount corresponding to the amount of displacement between the two operative positions, the slidable member being displaceable by a force applied to its end.

8. A bottle top according to claim 6, wherein a elongate aperture extending parallel to the slidable member is provided in the cover base wall and wherein a knob for actuation of the slidable member is provided on the slidable mounted member and extends through the elongate aperture.

9. A bottle top according to claim 8, wherein said elongate aperture is of an arrow type configuration to indicate the direction of movement of the slidable member to the first operative position thereof.

10. A bottle top substantially as hereinbefore described with reference to the accompanying drawings.

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1462508 COMPLETE SPECIFICATION

1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

Fig. 1

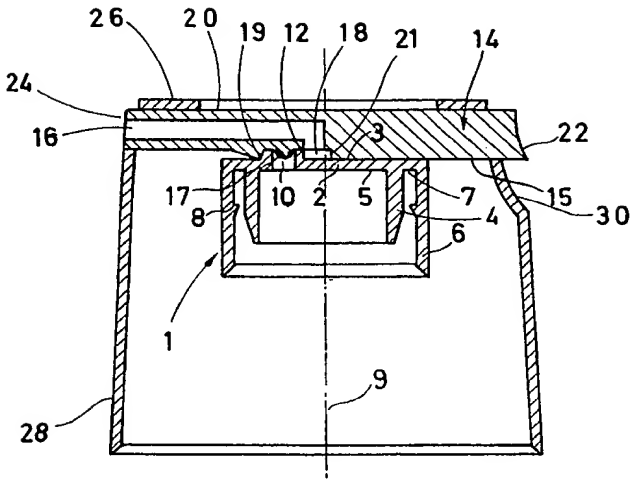

Fig. 2